Mozambique Details

CHALLENGE:

How could we increase total production and the total cultivated area while also improving its productivity? It is a matter of increasing the revenue and profit of small farmers while improving weeding in terms of:

a) Effectiveness (increasing productivity per hectare).

b) Efficiency (reduction in time and financial resources to a cost for guidance purposes of 2,000 MZN for the first weeding and 4 days/person per hectare).

Description of the challenge:

Weeds are one of the greatest problems for Mozambique’s small farmers in general and for Cabo Delgado in particular. Controlling them is not only inefficient, but also takes up around 50% of the time and of total investments in farming activities. Farmers generally weed from one (1) to four times (4) per crop. The first time involves the greatest effort and an average of some 12 hours of work/person and costs 4,000 MZN per hectare.

Technical deficiencies (when and how to weed properly), scant availability of environmentally-friendly herbicides and lack of expertise in using them, plus a shortage of labour, zero use of animal traction and of livestock and unavailable funds to weed at the due time, among other factors, largely contribute to poor management of weeds, which directly causes a decrease in farmers’ production, quality and income.

Proposals must:

- Adapt to the local population’s low technological and economic level.
- Be replicable on a large scale in the region.
- Ensure that current production does not drop.
- Prevent additional effort or cost for producers or their families.
- Respect local cultural and traditional principles.
Prevent environmental pollution
Yield tangible results at the end of the first campaign.
Fulfil the corresponding terms of reference.
Be valid for all crops and soil types in the northern area of Mozambique.

Note: the proposals may include complementary and synergic actions, aimed at increasing agricultural return and, therefore, the income and wellbeing of the families involved.

Images
Some images of the zone appear below to provide a better idea of the terrain.

Availability of cropland.
No direct access on tracks for vehicles.

Use of burning and herbicides
Mission of the challenge:

To make the most of technology to improve the weeding system and therefore increase total production per farming family in order to raise their income to reach minimum salary levels.

Beneficiaries:

Small farmers from Cabo Delgado who live in isolated areas at a distance from decision-making centres. Their income is below the minimum salary and most (>70 %) are illiterate¹. Many are unable to use current information and communication technology (they can use mobiles but not smartphones). The average area per family is around 1-2 hectares.

¹ Unesco: https://es.unesco.org/news/alfabetizacion-familia-mozambique
Long travelling times to their markets and croplands.
- Very low level of technology.
- Scarcity of or long distance from agricultural suppliers and machinery maintenance.
- Highly deficient road network: earth tracks and paths.
- Small and isolated machambas (croplands).
- Very intense rains at certain times or possible droughts.
- No internet cover in rural areas. Possible use of local radios.
- Crop diversity (maize, sesame, salad vegetables, peanuts, etc.). Some are for home consumption and others for sale. They have diverse land types (mainly dryland farming but also land for irrigation).
- Malaria zone.
- Most speak Bantu languages and not Portuguese.
- They have no culture of working with animals or grazing or draught animals.
- Most often they are no associated with one another.
- They scarcely have any investment capacity.
- They do not use machinery for working the land because of a lack of money, availability, maintenance, etc.

Typical profile of two farmers from Namitir:
- Alberto, 28 years old, eight (8) children. He grows peanuts, sesame and salad vegetables. He works alone with his family and does not associate with anyone.
- Rosema, 25 years old, single, four (4) children. She grows millet and salad vegetables.

Another example from the village of Nacuca:
- Rosa, married, two (2) children. She grows cotton, salad vegetables and sesame. Member of two associations.

In some villages virtually no one works in association. In others, most people do. Production work is done by the family, apart from occasional one-off hiring.

**Development areas**

1. **There are techniques from the local area and from elsewhere that could be applied with adaptations.**

   Integrated weed handling techniques that combine plant cover (living or dry) with the use of organic herbicides.

2. **With the proper investments, this would yield a good return.**

   Increasing the farmed area up to 3 ha, without having to increase production per hectare could help them to reach the minimum salary for the whole year.
3. People adopt techniques that are shown to be profitable in the short term.
There are good experiences of introducing new crops and watering systems.

4. In other parts of the country, draught animals and livestock are used.
Some simple small manual or mechanical machinery could be used if duly adapted.

Support documentation:

- Listening report of Mundukide for W4P 2018
- Weed Management for Developing Countries. Addendum 1.Edited by R. Labrada
  http://www.fao.org/3/Y5031E/Y5031E00.htm
  what-is-iwm/en/
- https://answers.practicalaction.org/our-resources/item/lost-to-the-weeds-changing-practices-
  favour-an-old-enemy
- METHODS FOR THE CONTROL OF WEEDS. ( 1 ) Ricardo González Ponce Instituto de Ciencias
  Agrarias (ICA)
- https://agriprofocus.com/post/55f2b82ba93f2505bcd4a679 Referring to Ethiopia